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EXAMINER

MARCELO, MELVIN C

ART UNIT PAPER NUMBER

2663

DATE MAILED: 03/15/2004

5

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/598,565

Applicant(s)

AKHTAR ET AL.

Examiner

Melvin Marcelo

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 June 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 14 is/are allowed.
- 6) ☒ Claim(s) 1-13 and 15-28 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 4.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Information Disclosure Statement

1. The IDS, filed 10-19-2000, has not been considered since the examiner could not find the supplied copies of the references cited in the IDS. If applicant had previously submitted copies of these references, the examiner apologizes for the inconvenience and would appreciate applicant re-submitting copies in order to properly consider these references.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

3. Claims 12 and 13 are rejected under 35 U.S.C. 102(e) as being anticipated by Mo et al. (US 6693909 B1).

With respect to the claims, references to Mo appears in parenthesis.

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12. A communications system (Mo, Figure 1) comprising: a packet-based network (Column 1, lines 13-16); a plurality of nodes connected to the packet-based network (Plurality of IPT nodes in Figure 4 and column 6, line 50 to column 7, line 34)); and a source node (IPT Node 112), wherein the source node sends a control message (Traffic through a node includes both control messages and data messages since there is only one pathway between nodes and Mo does not distinguish between control messages and data messages transmitted within the transport packet) to a target node (IPT Node 116) through the plurality of nodes (IPT Nodes 114), the control message includes a priority indicator used to perform expedited processing of the control message within the plurality of nodes in which the priority indicator is set (The priority indicator is CoS which provides expedited processing by reducing the delays associated with transporting the message, column 4, lines 45-61).
13. The communications system of claim 12, wherein the priority indicator is set for time sensitive information in the control message (CoS is based on time sensitive information, column 4, lines 45-47).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-5, 7-11, 15-19 and 21-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Phaal (US 6055564 A) in view of Mo et al. (US 6693909 B1).

Phaal teaches the transmission of a priority indicator in a message in order to indicate to an application handling the message to give it priority (Column 2, lines 43-57). Phaal does not teach transmitting the messages over transport packets with additional priority indicators. Phaal is directed to applications involving the world-wide

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web (column 1, lines 12-16) and using the Internet Protocol (column 1, lines 21-24). Mo is directed at improving Internet Protocol networks (column 1, lines 41-52) including the Internet (column 3, lines 62-67) by providing priority indicators within the transport packet for giving priority in processing at transport nodes (priority indicators are CoS parameters, column 2, lines 55-61 and column 4, lines 45-61). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine improvements to two areas of data communication since a skilled artisan would have been motivated by the desire to improve communication systems by combining the two teachings for the reason that the Internet is the transport mechanism for accessing the world-wide web and that Phaal improves processing on the world-wide web and Mo improves processing on the transport mechanism on the Internet.

With respect to the claims, references to the prior art appear in parenthesis.

1. *A method in a communications system for processing control messages (Phaal does not distinguish between control and data messages since the functions associated with a message can be control as in commercial transactions or data as in browsing, column 1, lines 28-40) in a packet-based portion of the communications system (Internet Protocol in both Phaal and Mo), the method comprising: placing a priority indicator in a control message to indicate to an application handling the control messages that the control message is to be given priority in processing (Phaal, column 2, lines 43-57); and placing a priority indicator in a header of a packet transporting the control message within the packet-based portion of the communications system to indicate to a node receiving the packet that the packet is to be given priority in processing (Mo, CoS is the priority indicator in the transport packet, column 4, lines 45-61 and the nodes are the IPT Nodes).*
2. *The method of claim 1, wherein the packet is an Internet Protocol packet (Mo, column 3, lines 55-58).*
3. *The method of claim 1, wherein the node is one of a server, a router, and a device/host platform hosting foreign agent*

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functionality (Mo, the IPT Node is a router in that it provides a routing function, column 5, lines 58-62).

4. The method of claim 1 further comprising: sending a request to the node to reserve processing resources to process the packet (Mo, the node reserves bandwidth and guarantees transportation within a defined time delay (column 4, lines 45-61), wherein it is implicit that the node reserves bandwidth based on a request since the reservation is based on the priority of the incoming packet).

5. A method in a communications system for processing control messages for a session in a packet-based network within the communications system (In Phaal, sessions are monitored, wherein the initial message of the session is a control message in that it results in the allocation of processor resources, column 5, lines 8-16), the method comprising: setting an indicator for a control message handling the session within the communications system through the packet-based network (Phaal, column 2, lines 43-57); and

sending the control message to the packet-based network, wherein the packet based network provides preferential processing of the control message in managing the session based on the indicator (Mo provides preferential processing of any type of message based on the transport packet's priority indicator which is further based on the time-sensitive nature of the underlying message, column 4, lines 45-61).

7. The method of claim 5, wherein the control message is transported through a plurality of nodes (Mo, Figure 4) and further comprising setting a second indicator, wherein the plurality of nodes provide preferential handling of the control message based on the second indicator (Mo, the second indicator is the CoS parameters, column 2, lines 55-61).

8. The method of claim 7, wherein the second indicator is a differential service bit in an Internet Protocol header in a packet transporting the control message (Mo teaches that the second indicator can be based on "CoS, QoS and other suitable traffic type identifiers," as long as it distinguishes low from high priority, column 8, lines 11-17. Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use a differential service bit in the IP header since such a bit can be used to distinguish low/high priority as explicitly suggested by Mo).

9. The method of claim 5, wherein a set of nodes is configured to reserve bandwidth for processing selected messages (Mo, Figure 4 and column 7, lines 20-22) and further comprising: sending a message to the set of nodes to reserve the bandwidth for

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processing the control message (In Mo, the condition of reserved bandwidth implies that a prior message has been sent to reserve bandwidth for future use).

10. The method of claim 5, wherein the set of nodes include at least one of a router, a server, and a device/host platform hosting foreign agent functionality (In Mo, the set of nodes provides a router function, column 5, lines 58-62).

11. The method of claim 5, wherein the control message is a message from a set of messages to establish the session, terminate the session, and manage the session (In Phaal, sessions are monitored, wherein the initial message of the session is a control message in that it results in the allocation of processor resources, column 5, lines 8-16).

15. A communications system for processing control messages in a packet-based portion of the communications system, the communications system comprising:

first placing means for placing a priority indicator in a control message to indicate to an application handling the control messages that the control message is to be given priority in processing (Phaal, column 2, lines 43-57); and second placing means for placing a priority indicator in a header of a packet transporting the control message within the packet-based portion of the communications system to indicate to a node receiving the packet that the packet is to be given priority in processing (Mo, column 4, lines 45-61).

16. The communications system of claim 15, wherein the packet is an Internet Protocol packet (Mo, column 3, lines 55-58).

17. The communications system of claim 15, wherein the node is one of a server, a router, and a device/host platform hosting foreign agent functionality (Mo, column 5, lines 58-62).

18. The communications system of claim 15 further comprising: sending means for sending a request to the node to reserve processing resources to process the packet (In Mo, the condition of reserved bandwidth implies that a prior message has been sent to reserve bandwidth for future use, column 7, lines 20-22).

19. A communications system for processing control messages for a session in a packet-based network within the communications system, the communications system comprising: setting means for setting an indicator for a control message handling the session within the communications system through the packet-based network (Phaal, column 2, lines 43-57 and column 5, lines 8-16); and sending means for sending the control message to the packet-based network, wherein the packet-based network provides preferential processing of the control message in managing the session based on the indicator (Mo, column 4, lines 45-61).

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21. The method of claim 19, wherein the control message is transported through a plurality of nodes (Mo, Figure 4) and further comprising a second setting means for setting a second indicator, wherein the plurality of nodes provide preferential handling of the control message based on the second indicator (Mo, the second indicator is the CoS parameters, column 2, lines 55-61).

22. The method of claim 21, wherein the second indicator is a differential service bit in an Internet Protocol header in a packet transporting the control message (Obvious based on Mo's suggestion that the indicator can be based on "CoS, QoS and other suitable traffic type identifiers," column 8, lines 11-17. See above with respect to claim 8).

23. The communications system of claim 19, wherein a set of nodes is configured to reserve bandwidth for processing selected messages (Mo, Figure 4) and further comprising: sending means for sending a message to the set of nodes to reserve the bandwidth for processing the control message (Mo, implicit that a prior message has been sent to reserve bandwidth for future use, column 7, lines 20-22).

24. The communications system of claim 19, wherein the set of nodes include at least one of a router, a server, and a device/host platform hosting foreign agent functionality (Mo, Figure 2).

25. The communications system of claim 19, wherein the control message is a message from a set of messages to establish the session, terminate the session, and manage the session (Phaal, column 5, lines 8-16).

26. A computer program product in a computer readable medium for processing control messages in a packet-based portion of the communications system (with respect to the combined teachings of Phaal and Mo, it would have been obvious to implement the combination as a computer program product since a skilled artisan would have been motivated to place the invention into an easily distributable form), the computer program product comprising: first instructions for placing a priority indicator in a control message to indicate to an application handling the control messages that the control message is to be given priority in processing (Phaal, column 2, lines 43-57); and second instructions for placing a priority indicator in a header of a packet transporting the control message within the packet-based portion of the communications system to indicate to a node receiving the packet that the packet is to be given priority in processing (Mo, column 4, lines 45-61).

27. A computer program product in a computer readable medium for processing control messages for a session in a packet-based network within a communications system (obvious to implement an invention on an easily distributable form), the computer program product comprising: first instructions for setting an indicator in a control message handling a session within the communications system through the packet-based network (Phaal, column 2, lines 43-57 and column 5, lines 8-16); and second instructions for sending the control message to the packet-based network, wherein the packet-based network provides preferential processing of the control message in managing the session based on the indicator (Mo, column 4, lines 45-61).

28. The computer program product of claim 27, wherein a set of nodes is configured to reserve bandwidth for processing selected messages (Mo, Figure 4 and column 7, lines 20-22) and further comprising: third instructions for sending a message to the set of nodes to reserve the bandwidth for processing the control message (Mo, the condition of reserved bandwidth implies that a prior message has been sent to reserve bandwidth for future use).

6. Claims 6 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Phaal and Mo et al. as applied to claims 5 and 19, respectively above, and further in view of applicant's admitted prior art.

Phaal and Mo do not teach the attribute value pair. However, applicant admits that the attribute value pair is part of the prior art Diameter protocol, specification, page 12, lines 3-7. The attribute value pair is a specific field within the control message, Figure 6. With respect to Phaal, the "indicator can be a specific alphanumeric field associated with each message, and it can also be in the form of presence or absence of a specific field (indicating a priority and non-priority, respectively)," column 2, lines 54-57). Thus, it would have been obvious to provide the indicator as an attribute value pair since a skilled artisan would have been motivated by Phaal's explicit suggestion to provide the indicator in the form of a specific alphanumeric field associated with each

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message, wherein the attribute value pair field is admitted as a prior art field. With respect to the claims, references to the prior art appear in parenthesis.

6. The method of claim 5, wherein the indicator is an attribute value pair located in the control message (AVP is admitted prior art, specification, page 12, lines 3-7).

20. The communications system of claim 19, wherein the indicator is an attribute value pair located in the control message (AVP is admitted prior art).

Allowable Subject Matter

7. Claim 14 is allowed.

8. The following is a statement of reasons for the indication of allowable subject matter: the prior art of record fails to anticipate or make obvious the particular node including the processing unit connected to the bus executing the specific set of instructions.

14. A node comprising: a bus; a communications adapter connected to the bus, wherein the communications adapter sends and receives messages to and from a packet-based network; a memory connected to the bus, wherein the memory includes instructions for an application; and a processing unit connected to the bus, wherein the processing unit executes a set of instructions to generate a control message for a session within an application at a remote node, place a priority indicator in the control message to indicate to an application handling the control messages that the control message is to be given priority in processing, and place a priority indicator in a header of a packet transporting the control message within the packet-based portion of the communications system to indicate to a node receiving the packet that the packet is to be given priority in processing.

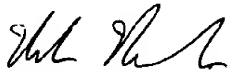
Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Mo et al. (US 20010053149 A1) is a related patent document. Galand et al. (6104998 A) teach transport packet priority.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Melvin Marcelo whose telephone number is 703-305-4373. The examiner can normally be reached on Monday-Friday, 8:30 to 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chau Nguyen can be reached on 703-308-5340. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Melvin Marcelo
Primary Examiner
Art Unit 2663

Mm
March 9, 2004